Amychus candezei
Chatham Islands click beetle

A manual with aids to identification and suggestions for simple population monitoring.

by

R.M. Emberson and J.W.M. Marris
Dept of Entomology and Animal Ecology
Lincoln University

The Chatham Islands click beetle, *Amychus candezei*, is a large (13-19mm long), broad, rough surfaced click beetle (Fig.1). Its larvae live in soil and leaf litter, probably growing to about 40mm in length and having the appearance of large mealworms. The adults rest among leaf litter or under rocks and logs during the day but tend to come out and crawl around on the surface at night, when they can often be seen walking up tree trunks or on fallen logs and other debris. Whilst they can be found during the day by turning logs, the best and least intrusive way of observing them is by night searching of tree trunks alongside tracks, with a head torch. In areas lacking trees they should be visible on bare ground at night, or found by turning rocks and debris during the day.

There are thought to be at least four discrete populations of the Chatham Island click beetle, on Rangitira, Mangere, Middle Sister and Big Sister. Historically, the species also occurred on Chatham Island, with the last known sighting in 1967 at Hapupu where it was found under large rotten logs in grazed- out kopi forest. It appears that this population did not survive until the fencing of Hapupu. They may have been finished-off by pigs or wekas which are extremely numerous in the area today. Other populations of the click beetle may still survive on Chatham Island, where better habitat remains. The tangled forest behind Taiko Camp would be a possibility. Perhaps efforts could be made to search for them on tree trunks at night, in conjunction with the taiko work.

The Rangitira population remains healthy. On an average evening in summer an observer can expect to see 3 or 4 of these beetles on tree trunks in a two hour period after dark . Sometimes the number may be 8 or 10 individuals in the same length of time. It is not known what precisely controls this variation, but warm, still, humid evenings, perhaps just after rain, are likely to be the most rewarding for searching. These same conditions seem to benefit other insects, so more of them will be about as well. We found a useful comparison could be made between the number of click beetles seen and the number of the Chatham Island stag beetle, *Dorcus capito*, (Fig.2) observed on the ground, and on logs and tree trunks. Roughly twice as many stag beetles may be seen as click beetles. The stag beetles are more conspicuous and may provide a useful check on observer bias. However, care needs to be taken not to confuse the shiny stag beetles with the slightly smaller, matt black darkling beetle, *Mimopeus pascoei*, which is very common on the ground at night.

Fig. 1: *Amychus candezei* - Chatham Island click beetle.

Fig. 2: *Dorcus capito* - Chatham Islands stag beetle (♂ above, ♀ below).

The population on Mangere is newly discovered. Two specimens were collected in pitfall traps in 'Robin Bush' in December 1992. It would be interesting to know whether the species is restricted to 'Robin Bush', or is more widely distributed on the island and also how numerous it is in 'Robin Bush'. Night observation could reveal whether it is as numerous as on Rangitira.

There are specimens of *Amychus candezei* in collections from both Middle and Big Sister Islands. These beetles were collected in 1973 and 1974. It would be extremely helpful to know the present status of these populations. There have apparently been a series of dry years on the Sisters Islands combined with some increase in the seabird populations. The impact of these changes on the vegetation may have been such as to affect the populations of *Amychus* on these islands. Since the Sisters Islands hold half of the known discrete populations of *A. candezei*,the long term survival of the species would be threatened by their demise.

Urgent steps should be taken to ensure that both these populations remain viable. Studies could begin with night surveys, to be undertaken by visiting seabird workers, perhaps combined with some careful rock turning and replacement. A close relative, the Cook Strait click beetle, used to be observable by these methods on North Brother Island in Cook Strait, which also lacks tall woody vegetation.

The possibility of further populations of *Amychus candezei* being found remains good. Searches could profitably be mounted on Little Mangere, Star Keys and perhaps other small islands including the Forty Fours, the Pyramid, the Murumurus and other stacks that have at least some vegetation. D.o.C. and other workers visiting these islands in the course of other duties and research might be asked to invest a little time in looking for these beetles.

If observers are in doubt as to the identity of possible specimens of *Amychus*, photographs should be taken with a macrolens, or single voucher specimens, which could probably be removed without harm to the population, should be collected. These may be sent to the Department of Entomology and Animal Ecology at Lincoln University for confirmation of identification.